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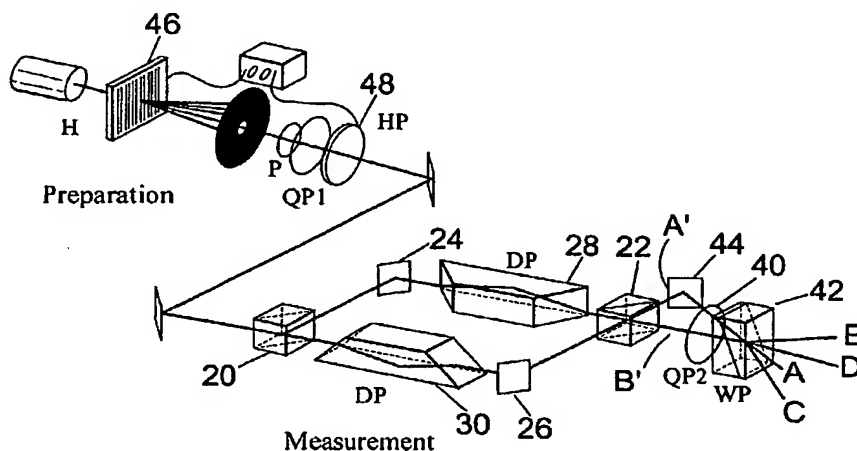
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(54) Title: PHOTONIC SWITCH WORKING IN MOMENTUM-DIVISION-MULTIPLE-ACCESS (MDMA) MODE FOR MICROWAVE AND OPTICAL WAVELENGTHS BASED UPON THE MEASUREMENT OF THE SPIN, THE ORBITAL ANGULAR MOMENTUM AND THE TOTAL ANGULAR MOMENTUM OF THE INVOLVED PHOTO



(57) Abstract: Photonic switch working in Momentum-Divison-Multiple-Access (MDMA) mode for microwave and optical wavelengths based upon the measurement of the spin, orbital angular momentum and total angular momentum of the involved photons. For the optical wavelengths Dove prisms and holograms are used in form of a Mach-Zehnder-Interferometer as selectors; for the microwave wavelengths phased-array antennas with double orthogonal dipoles act as selectors.

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